

**In the Claims**

Applicant has submitted a new complete claim set indicating marked up claims with insertions and deletions indicated by underlining and strikeouts, respectively.

Please cancel claims 1, 2, 26-29, 55, 56, 87, 88, 90, 91, 93, 94, 105 and 106 without prejudice or disclaimer.

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1-115. (Canceled)

116. (New) A method for testing the influence of a compound on a nematode, in which said nematode is *C. elegans*, which method comprises:

- B<sup>1</sup>
- (a) exposing said nematode to said compound;
  - (b) generating a phenotypic profile for said nematode upon exposure to the compound by measuring and scoring a plurality of changed characteristics in the nematode upon exposure to said compound;
  - (c) comparing the phenotypic profile thus generated to a library of reference phenotypic profiles, which library of reference phenotypic profiles is stored electronically on a database.

117. (New) The method according to claim 116, in which, in step (b), the phenotypic profile is generated by following a strict standard protocol of measurement and scoring and in which a standard description is applied to each characteristic.

118. (New) The method according to claim 117, in which the strict standard protocol of measurement and scoring and the standard description applied to each characteristic are the same as those used for establishing the phenotypic profiles in the library of reference phenotypic profiles.

119. (New) The method according to claim 116, in which, in step (b), said plurality of changed characteristics is measured and scored in a predetermined order to generate said phenotypic profile.

120. (New) The method according to claim 119, in which the order used is the same as the order used for establishing the phenotypic profiles in the library of reference phenotypic profiles.

121. (New) The method according to claim 116, in which, in step (c), the phenotypic profile thus generated is compared to a library of reference profiles that has been established for mutant worms and for worms exposed to particular environmental changes or different sorts of compounds.

122. (New) The method according to claim 116, in which, in step (b), the phenotypic profile is generated by measuring and scoring of two or more characteristics selected from the group consisting of: viability, life cycle, body shape, movement behaviour, mechanotransduction, pharynx pumping, defecation and fertility.

123. (New) The method according to claim 116, in which, in step (b), the phenotypic profile is generated on the basis of the measurement and scoring of at least three different characteristics.

124. (New) The method according to claim 123, in which, in step (b), the phenotypic profile is generated on the basis of the measurement and scoring of at least six characteristics.

125. (New) The method according to claim 124, in which, in step (b), the phenotypic profile is generated on the basis of the measurement and scoring of at least ten characteristics.

126. (New) The method according to claim 116, in which the worms which are exposed to the compound are wild-type worms, mutant worms, transgenic worms and/or worms carrying reporter gene constructs.

127. (New) The method according to claim 116, in which a panel of nematodes covering a wide range of biochemical pathways and cellular activities by means of mutations in particular pathways, as well as reporter genes, is exposed to said compound.

128. (New) The method according to claim 116, in which said nematode is exposed to several concentrations of said compound.

129. (New) The method of claim 116, wherein the library of phenotypic profiles of nematode worms is constructed by a method that comprises providing a worm having a defect in at least one gene.

130. (New) The method of claim 129, wherein the method for constructing a library of phenotypic profiles of nematode worms further comprises measuring any changes in identifiable characteristics of said worm compared to a worm without said defect.

B1  
Conc  
131. (New) The method of claim 130, wherein the method for constructing a library of phenotypic profiles of nematode worms further comprises systematically scoring a plurality of any said changed characteristics to establish a characteristic phenotypic profile associated with said defect.

132. (New) The method of claim 131, wherein the method for constructing a library of phenotypic profiles of nematode worms further comprises simultaneously or sequentially repeating, with a plurality of worms each of which has a different defect, the steps of:  
providing a worm having a defect in at least one gene,  
measuring any changes in identifiable characteristics of said worm compared to a worm without said defect, and  
systematically scoring a plurality of any said changed characteristics to establish a characteristic phenotypic profile associated with each of said different defects.

133. (New) The method of claim 132, wherein the method for constructing a library of phenotypic profiles of nematode worms further comprises collating the phenotypic profiles so obtained into a library of said profiles.

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